



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/693,954	10/28/2003	Yoshikazu Fujita	723-1446	3806

23117 7590 02/07/2006

NIXON & VANDERHYE, PC  
901 NORTH GLEBE ROAD, 11TH FLOOR  
ARLINGTON, VA 22203

EXAMINER

RAHMJOO, MANUCHER

ART UNIT PAPER NUMBER

2676

DATE MAILED: 02/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/693,954

Applicant(s)

FUJITA, YOSHIKAZU

Examiner

Mike Rahmjoo

Art Unit

2676

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 30 December 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) 20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☒ Interview Summary (PTO-413)  
Paper No(s)/Mail Date 1/24/06
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1- 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki (US Patent 5,974,175) in view of Bokhour (US Patent 6,847,333).

As per claims 1, 6, 11- 12 and 16 and as to the broadest reasonable interpretation by examiner Suzuki teaches neighboring area detecting mechanism for detecting a neighboring area of the ink line area, which surrounds the ink line area see for example figures 4-5 for the contours along with the neighboring areas that are detected and figure 3 wherein the contour and the object boundary having the contour is detected; line drawing data storing mechanism for storing the line drawing data see for example figures 1- 2 for block 10; and color data writing mechanism for writing color data to a storage area of the line drawing data storing mechanism, which corresponds to the ink line area and the outline area, and writing different color data to another storage area of the line drawing data storing mechanism, which corresponds to an area

Art Unit: 2676

other than the ink line area and the outline area see for example column 5 lines 1- 15 for the image processing device 30 which performs necessary processing steps, such as color-changing (writing different color data) in different areas with different outlines (figures 5 and 8) that is performed after object extraction and column 6 lines 10- 17 for the filling (writing) the inside and outside of the contour with prescribed image data which is then sent to display memory.

However, Suzuki does not teach ink line area detecting means for detecting an area whose brightness is smaller than a predetermined value in an original image, as an ink line area and a brightness which differs from an area adjacent to the outline area and assigning data corresponding to a first color to both the ink line area and the outline area and assigning data corresponding to a second color, different than the first color, to at least the neighboring areas and outline area detecting mechanism for detecting an outline portion of an image as an outline area, with respect to an area other than the ink line area and the neighboring area in the original image, by performing an outline extraction process for the entire area of the original image except the ink line area and the neighboring area thereof to prevent the ink line area from becoming thickened in a line drawing image obtained from the outline extraction device.

As to the broadest reasonable interpretation by examiner Bokhour teaches ink line area detecting means for detecting an area whose brightness is smaller than a predetermined value in an original image, as an ink line area and a brightness which differs from an area adjacent to the outline area see for example figures 1- 2 and column 5 lines 40- 55 wherein region map 68a includes locating portions of the image

where the intensity level of adjacent pixels changes (different brightness); and assigning data corresponding to a first color to both the ink line area and the outline area and assigning data corresponding to a second color, different than the first color, to at least the neighboring areas see for example figure 4 for assignment of colors (256 colors) with different regions (128 regions or more) and column 6 lines 15- 39 wherein the region map 68a and the colored region image are input to region color linking device.28 which compares the colored region image 70a with the region map 68 and links (assigning data) each region (ink line area, the outline area and the neighboring area) in the region map 68a with the associated color in the colored region image 70a which enables the use of up to 256 colors; and outline area detecting mechanism (a detection device for identifying a plurality of arbitrarily-shaped discrete regions of the image see for example column 1 lines 60- 65 and claim 1) for detecting an outline portion of an image as an outline area, with respect to an area other than the ink line area and the neighboring area in the original image, by performing an outline extraction process for the entire area of the original image except the ink line area and the neighboring area thereof to prevent the ink line area from becoming thickened in a line drawing image obtained from the outline extraction device see for example the abstract and column 2 lines 48- 50 and claim 1 for a gray scale image generator for removing color data from said image (broadly corresponding to outline extraction from the entire image) to produce gray scale version (broadly corresponding to ink line and neighboring areas) of said image.

It would have been made obvious to one of ordinary skilled in the art at the time

the invention was made to incorporate the teachings of Bokhour into Suzuki to have a plurality of discrete regions of the region map encompass a portion of the gray scale image having a particular intensity value (luminance) or visual texture (visually observable intensity pattern variations) and therefore compile a region list associating each of the plurality of regions with a value thereby enhancing the device see for example column 1 lines 65- 67 through column 2 lines 1- 15.

As per claims 2 and 7 Suzuki teaches the original image contains a plurality of pixels (picture elements or pixels) see for example column 8 line 8, and when the ink line area is included in a predetermined area surrounding a pixel to be processed in the original image, and the pixel to be processed is not included in the ink line area (picture elements to be processed that are inside of the frame edge and not the others) , the neighboring area detecting mechanism detects the pixel to be processed as the neighboring area see for example figure 20 and column 16 lines 26- 32 .

As per claims 3 and 8 Suzuki teaches the ink line area detecting mechanism detects, as the ink line area, a portion of an area where brightness is smaller than a predetermined value, such that the portion lies near the outline of the area see for example figure 3 for the boundary and contour detection and also figures 4- 9 wherein the contours have less brightness.

As per claims 4 and 9 Suzuki teaches the original image contains a plurality of pixels (picture **elements or pixels**) see for example column 8 line 8, and when an area other than the ink line area is included in a predetermined area surrounding a pixel to be processed included in an area whose brightness is smaller than a predetermined

value, the ink line area detecting mechanism detects the pixel to be processed as the ink line area see for example figures 19- 20 and column 16 lines 26- 32 wherein picture elements or the pixels of a contour to be processed that are inside of the frame edge, the area as labeled X2 in figure 20 which includes a detection range B31 as well.

As per claims 5, 10, 14 and 18 Suzuki teaches still image data extracting mechanism for extracting arbitrary still image data from moving image data, wherein the line drawing data is generated using the still image data, which is extracted by the still image data extracting mechanism, as the original image data see for example column 5 lines 38- 52 for image data including a sequence of image frames (stationary images) contained in a motion picture which are later extracted.

As per claims 13 and 17 Bokhour teaches reassigning data (comparing the colored region image with the region map and linking each region in the region map with associated color) of an interior portion of the ink line area so that the data of the interior portion of the ink line area corresponds to the second color rather than the first color see for example column 6 lines 15- 25.

As per claims 15 and 19 Bokhour teaches in addition to the neighboring area pixels, all other pixels of the original image data outside of the ink area and the outline area are assigned data corresponding to the second color see for example figures 1- 4 and column 6 lines 15- 40 for the association of colors and regions.

***Response to Arguments***

As per applicant's remarks on page on page 12, applicant argues "the combination of Suzuki and Bokhour fails to teach or suggest all of the claim limitations."

Examiner respectfully disagrees.

Applicant's arguments fail to comply with 37 CFR 1.111(b) because they amount to a general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the references. Examiner fails to see "all" limitations as being addressed throughout applicant's remarks as being not being "taught or suggested".

In response to applicant's remarks on page 13 as to the "new grounds of rejection" in the office action mailed on 09/30/2005, examiner used the same references with changes made to the addressing of the limitations which changed the scope of rejections made.

As to the comments made through the advisory action mailed 08/19/2005, said comments reflected the limitations which examiner failed to observe as being addressed without any implicit or explicit remarks of said limitations as being allowable.

Examiner wishes to thank Mr. Raymond Mah for the telephonic interview on 01/24/2006 and the information provided on the "prevention" feature as per the



amendments to the claims on 12/30/2005. After further review of the references made of the record for rejection, examiner fails to see any thickening of the line portion of the line drawing from being thickened by the prior arts made of the reference used for rejection.

Examiner would further suggest incorporation of the process(s) of "to prevent the ink line area from becoming thickened in a line drawing image obtained from the outline extraction device" to the claim language as suggested during the telephonic interview to further distinguish current application for patent from the prior arts.

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

### **Inquiry**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mike Rahmjoo whose telephone number is (571) 272-7789. The examiner can normally be reached on 6:30- 3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Bella can be reached on (571) 272- 7778. The fax phone number for the organization where this application or proceeding is assigned is (571) 273- 8300 for regular communications and After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4750.

Mike Rahmjoo

January 25, 2006



**MATTHEW C. BELLA  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600**